

## ABSTRACT

A method for identifying a drug candidate for promoting tissue-specific differentiation of a stem cell includes the steps of: providing a library of test substances and an in vitro culture of stem cells divided into at least two subcultures; contacting one of the subcultures with the first test substance from the library and a second subculture with a second test substance from the library; culturing the subcultures under conditions that would promote tissue-specific differentiation of the stem cells if an agent that promoted tissue-specific differentiation was in contact with the stem cells; and analyzing the cells in the subcultures for increased tissue specific gene expression.

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